

Hydraulic Annular Washing Column, and Process for
Separating Solids From a Suspension

Abstract

An apparatus for separating solids from a suspension includes a hollow cylindrical column having a central axis therethrough. The column has an interior with a cross-section, perpendicular to said axis, that is constant along said axis, and that extends from a first end to a second end of the column; one central tube axially disposed in said column and extending from said one end toward said opposite end, said central tube having an outer wall of constant diameter, said cylindrical column and said central tube defining an annular zone between them, extending axially from said first end of the column to at least near said second end of the column; at least one filter in said outer wall of the said central tube, forming the only direct communication between the said annular zone and the interior of the tube and at least one filter in the outer wall of said hollow cylindrical column; means for supplying a suspension to said first end of the column; means for removing suspension at said second end of the column; said interior defining a concentration zone means communicating with the interior of said central tube for removing liquid passed through said filter in said outer wall of the said central tube and means for removing liquid passed through the filter in the outer wall of said hollow cylindrical column; means acting on the liquid of said suspension for urging said liquid through said annular zone towards said filters.